

METHOD FOR INPUT CURRENT REGULATION AND ACTIVE-POWER
FILTER WITH INPUT VOLTAGE FEEDFORWARD AND OUTPUT LOAD
FEEDFORWARD

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Abstract of the Disclosure

An active-power filter includes control circuitry to combine an integrated output-voltage feedback signal, an input-voltage sense signal and an output-load feedforward signal to generate a control signal. An output-load subsystem draws the output current from the active-power filter and the output-load feedforward signal indicates when current drawn by an output-load subsystem changes. In some embodiments, the output-load subsystem may draw output current from the power converter having an output current ripple at a nominal frequency, which may range, for example, between about 35 and 100 Hz. The control circuitry may include an integrator to integrate the output-voltage feedback signal. The integrator may have a control loop bandwidth significantly less than the nominal ripple frequency to loosely regulate the output voltage while the input current drawn by the active-power filter is tightly regulated.